Fact Sheet:

Land Condition Trend Analysis

September 1995

(LL 24)

The Problem

The U.S. Army maintains records of personnel and equipment training on its installations. These records show dramatic increases in both numbers of troops and tactical vehicles using training areas. Additionally, modern weapons systems and combat scenarios place an increasing demand on existing Army training lands. Until recently, however, the Army did not have standards for inventorying training lands or monitoring natural resources. Without a standardized system, it is difficult to match training load with land capability or develop any record of natural resource quality over time. Lacking such information, Major Army Commands and policymakers cannot secure the necessary funding, personnel, and equipment needed to maintain the training lands in a stable, useful condition.

The Technology

The Land Condition Trend Analysis (LCTA) program gives Army land managers a means to monitor the conditions of natural resources on their training lands. The primary objectives of LCTA are:

1) To help evaluate land capability to meet multiple use demands on a sustained basis,

2) To inventory conditions and monitor changes of natural resources,

3) To provide information for land management decisions, and

4) To implement a standardized data collection, analysis, and reporting method that enables data compilation at an Army-wide level.

Data collected with LCTA include topographic features, soil characteristics, botanical composition, vegetative cover, wildlife species, and surface disturbance. These data are collected from permanent plots whose locations are determined by a computer-based algorithm that uses a stratified-random design based on soils and land cover information derived from satellite imagery. Thus, data collected on these plots are representative of the installation as a whole. The plot data can be used to estimate soil erosion, describe plant communities, estimate ground cover and disturbance, evaluate tactical concealment, and monitor land restoration projects. It can also be used to assess wildlife and endangered species habitat, determine forage condition, and verify data for input to geographic information systems (GISs).

Benefits/Savings

LCTA provides Army land managers and administrators with long-term assessments of conditions and trends in vegetation and wildlife populations, as well as estimates of soil erosion. The application of LCTA data can serve to: 1) assist with identification of under- and over-used training areas, thereby reducing the need for expensive land restoration programs, 2) help make subjective land management decisions, 3) serve as a basis of policy for use/non-use decisions, 4) help ensure the sustained availability and productivity of Army land, and 5) provide input for integrated natural resources management plans, environmental assessments, and environmental impact statements.

Status

In 1987, the Assistant Secretary of the Army for Installations and Logistics reviewed the LCTA program and issued a statement calling for Army-wide implementation. CERL conducts research to improve LCTA methods, develops and integrates applications, and assists with implementation of the LCTA program. Currently, LCTA is being used at over 50 installations representing Forces Command, Training and Doctrine Command, Army Materiel Command,

U.S. Army Pacific, U.S. Army Europe, Army National Guard, the Marine Corps, and the U.S. Military Academy.

Points of Contact

The CERL POC for LCTA general inquiries is Paul Dubois, Terry Ortel is the POC for computer and database inquiries, Ed Delisio for GIS inquiries, and Alan Anderson for inquiries regarding data analysis and applications.

All POCs listed are available at COMM 217-373-4420; toll-free 800-USA-CERL; FAX 217-373-4421; or CERL, ATTN: CECER-LL-N, P.O. Box 9005, Champaign, IL 61826-9005.

LCTA is a component of the Integrated Training Area Management Program. For details, contact Robert Lacey (CERL) or Dr. Victor Diersing, COMM 703-696-8814; Headquarters, Department of Army, ATTN: EAIM-ED-N (Vic Diersing), 1815 N. Fort Meyer Drive, Suite 1710, Rosslyn, VA 22209.

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